FIG. 1

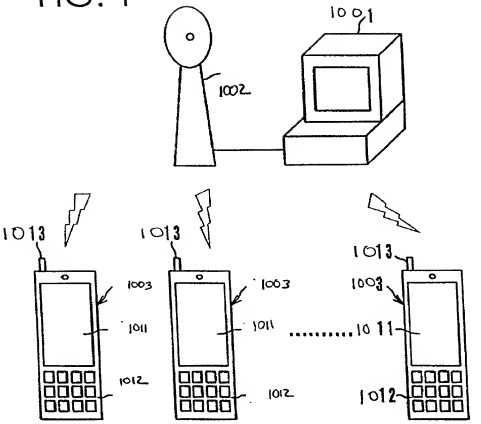

1001
1002
1013
1013
1013
1003
1003
1003
1011
1011
1011
1012
1012
1012

FIG. 2(A)

Display Example in On Mode

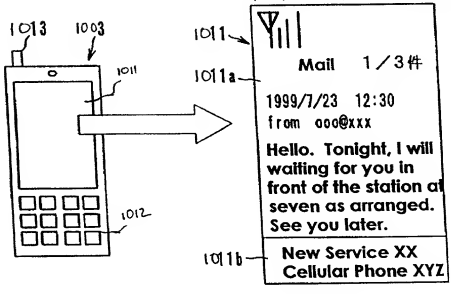


FIG. 2(B)

Display Example 1 in Off Mode

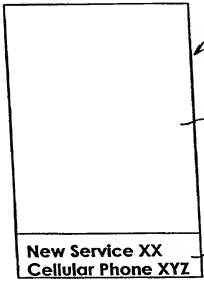


FIG. 2(C)

Display Example 2 in Off Mode

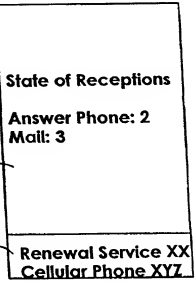


FIG. 3

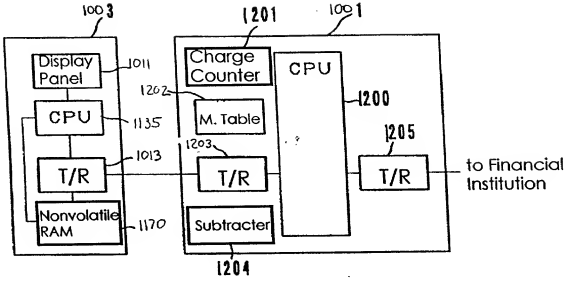

1003
1201
1001
Display Panel
1011
Charge Counter
CPU
1202
1200
CPU
1135
M. Table
1205
1203
1013
T/R
T/R
T/R
to Financial Institution
Nonvolatile RAM
1170
Subtracter
1204

FIG. 4

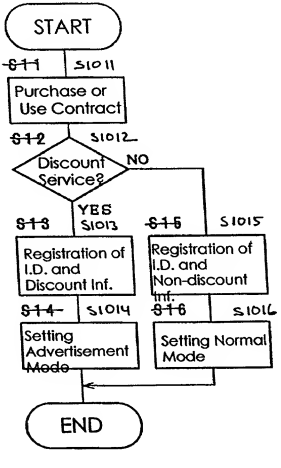

START
S11
S1011
Purchase or Use Contract
S12
S1012
Discount Service?
NO
YES
S13
S1013
S15
S1015
Registration of I.D. and Discount Inf.
Registration of I.D. and Non-discount Inf.
S14
S1014
S16
S1016
Setting Advertisement Mode
Setting Normal Mode
END

FIG. 5

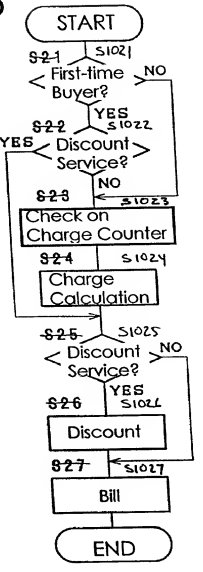

START
S21
S1021
First-time Buyer?
NO
YES
S22
S1022
YES
Discount Service?
NO
S23
S1023
Check on Charge Counter
S24
S1024
Charge Calculation
S25
S1025
Discount Service?
NO
YES
S26
S1026
Discount
S27
S1027
Bill
END

FIG. 6

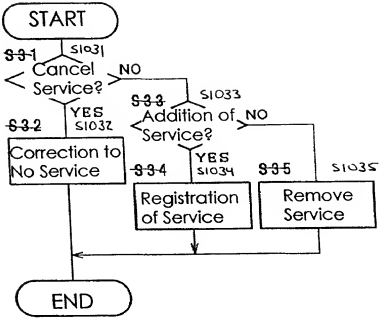

START
S31
S1031
Cancel Service?
NO
S32
YES
S1032
S33
S1033
Addition of Service?
NO
Correction to No Service
YES
S34
S1034
S35
S1035
Registration of Service
Remove Service
END

FIG. 7

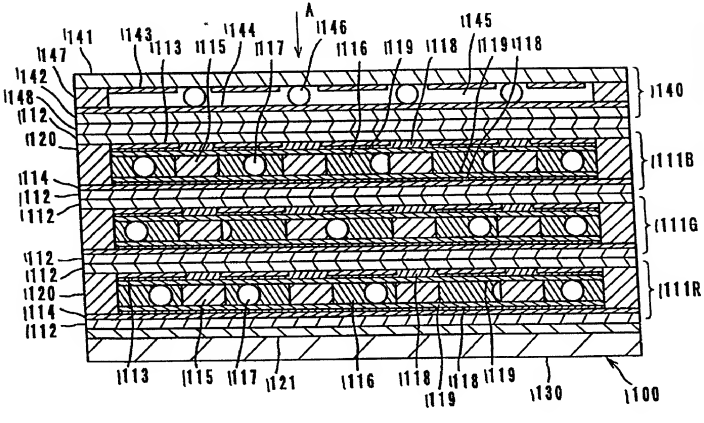

A
1141
1143
1113
1115
1144
1117
1146
1116
1119
1118
1145
1119
1118
1147
1142
1148
1112
1120
1114
1112
1112
1112
1112
1120
1114
1112
1140
1111B
1111G
1111R
1113
1115
1117
1121
1116
1118
1119
1118
1119
1130
1100

FIG. 8

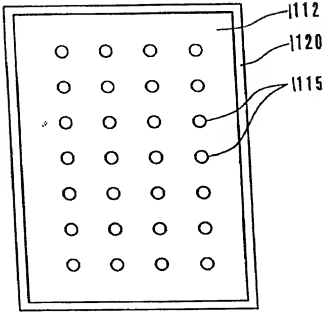


FIG. 9

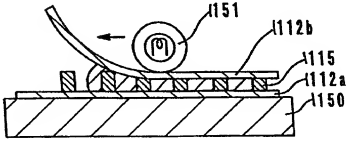


FIG. 10

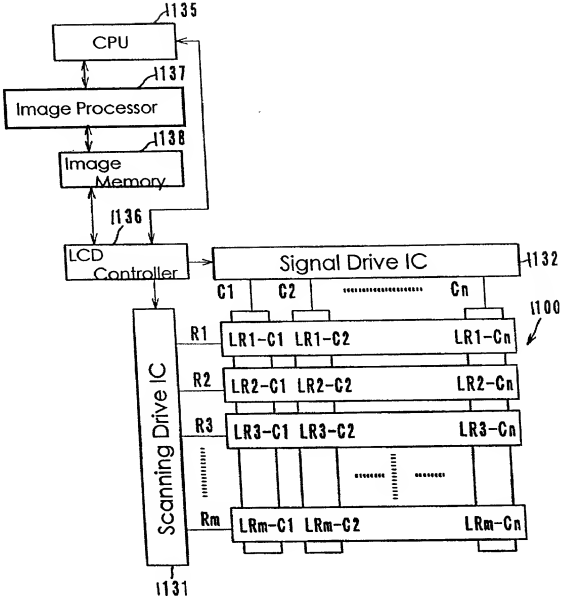

1135
CPU
1137
Image Processor
1138
Image Memory
1136
LCD Controller
Signal Drive IC
1132
C1
C2
Cn
1100
R1
LR1-C1 LR1-C2
LR1-Cn
R2
LR2-C1 LR2-C2
LR2-Cn
R3
LR3-C1 LR3-C2
LR3-Cn
Rm
LRm-C1 LRm-C2
LRm-Cn
Scanning Drive IC
1131

FIG. 11

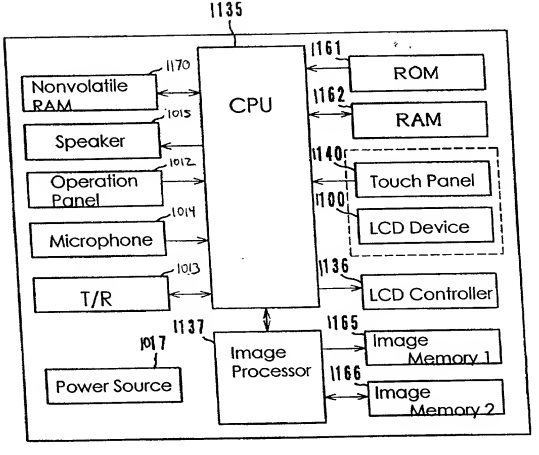

1135
CPU
1161
ROM
1162
RAM
1140
Touch Panel
1100
LCD Device
1136
LCD Controller
1165
Image Memory 1
1166
Image Memory 2
1170
Nonvolatile RAM
1015
Speaker
1012
Operation Panel
1014
Microphone
1013
T/R
1137
Image Processor
1017
Power Source

FIG. 12

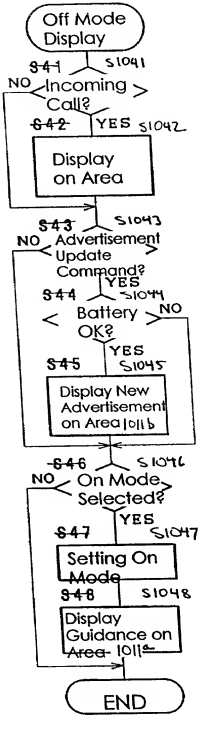

Off Mode Display
S41
S1041
NO
Incoming Call?
S42
YES
S1042
Display on Area
S43
S1043
NO
Advertisement Update Command?
YES
S44
S1044
Battery OK?
NO
YES
S45
S1045
Display New Advertisement on Area 1011b
S46
S1046
NO
On Mode Selected?
YES
S47
S1047
Setting On Mode
S48
S1048
Display Guidance on Area 1011a
END

FIG. 13

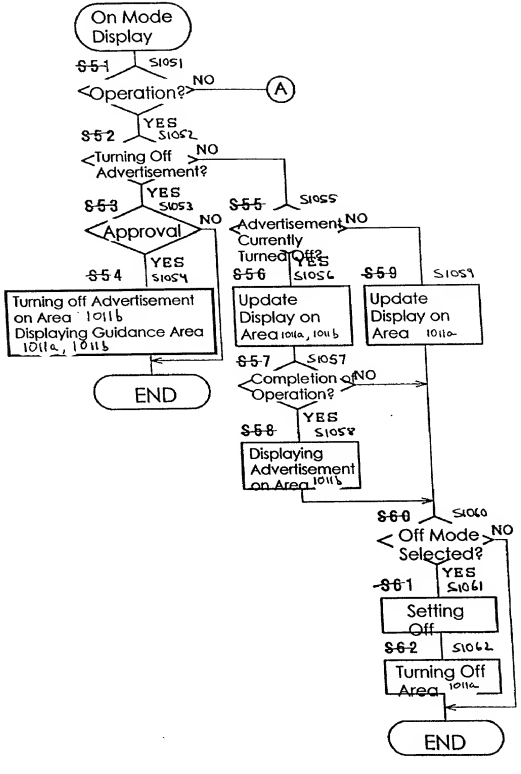

On Mode Display
S51
S1051
Operation?
NO
A
YES
S52
S1052
Turning Off Advertisement?
NO
YES
S53
S1053
Approval
NO
YES
S1054
S54
Turning off Advertisement on Area 1011b
Displaying Guidance Area 1011a, 1011b
END
S55
S1055
Advertisement Currently Turned Off?
NO
YES
S56
S1056
Update Display on Area 1011a, 1011b
S57
S1057
Completion of Operation?
NO
YES
S58
S1058
Displaying Advertisement on Area 1011b
S59
S1059
Update Display on Area 1011a
S60
S1060
Off Mode Selected?
NO
YES
S61
S1061
Setting Off
S62
S1062
Turning Off Area 1011a
END

FIG. 14

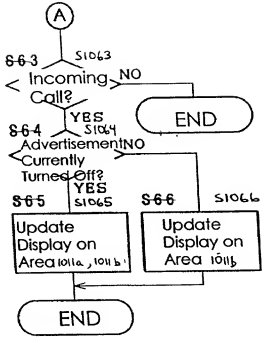

A
S63
S1063
Incoming Call?
NO
END
YES
S64
S1064
Advertisement Currently Turned Off?
NO
YES
S65
S1065
S66
S1066
Update Display on Area 1011a, 1011b
Update Display on Area 1011b
END

FIG. 15

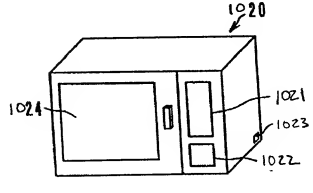

1020
1021
1023
1022
1024

FIG. 16(A)

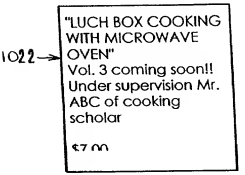


FIG. 16(B)

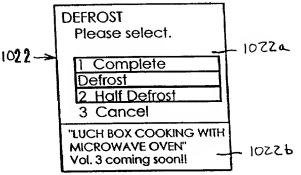


FIG. 17

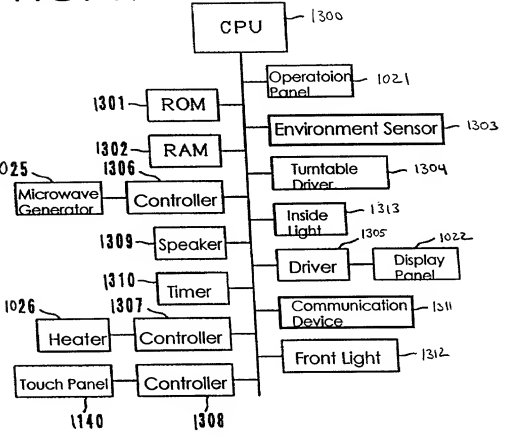


FIG. 18

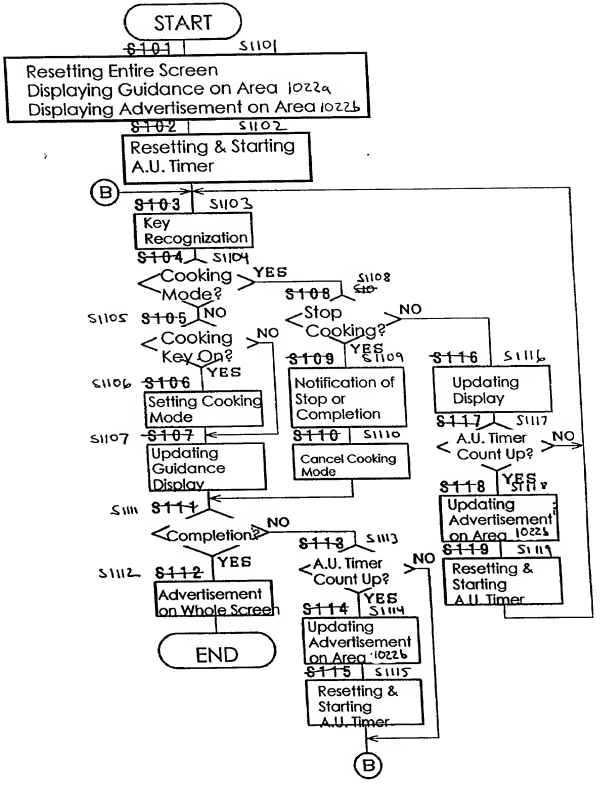

START
S101
S1101
Resetting Entire Screen
Displaying Guidance on Area 1022a
Displaying Advertisement on Area 1022b
S102
S1102
Resetting & Starting A.U. Timer
B
S103
S1103
Key Recognization
S104
S1104
Cooking Mode?
YES
S108
S1108
NO
S1105
S105
Cooking Key On?
NO
YES
S1106
S106
Setting Cooking Mode
S1107
S107
Updating Guidance Display
Stop Cooking?
NO
YES
S109
S1109
Notification of Stop or Completion
S110
S1110
Cancel Cooking Mode
S116
S1116
Updating Display
S117
S1117
A.U. Timer Count Up?
NO
YES
S118
S1118
Updating Advertisement on Area 1022b
S119
S1119
Resetting & Starting A.U. Timer
S111
S111
Completion?
NO
YES
S1112
S112
Advertisement on Whole Screen
END
S113
S1113
A.U. Timer Count Up?
NO
YES
S114
S1114
Updating Advertisement on Area 1022b
S115
S1115
Resetting & Starting A.U. Timer
B

FIG. 19

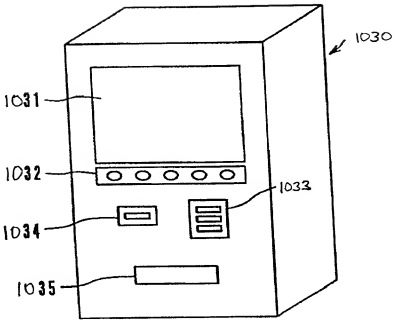


FIG. 20(A)

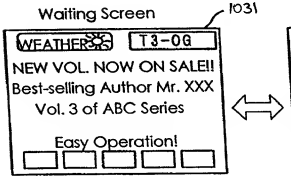


FIG. 20(B)

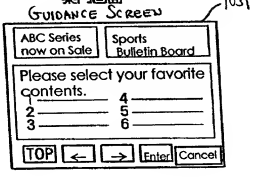


FIG. 21

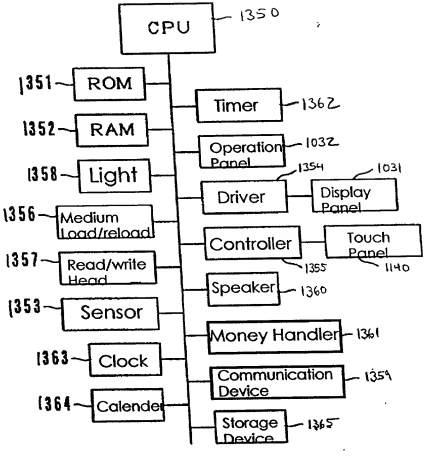

CPU
1350
1351
ROM
1352
RAM
1358
Light
1356
Medium Load/reload
1357
Read/write Head
1353
Sensor
1363
Clock
1364
Calender
Timer
1362
Operation Panel
1032
Driver
1354
1031
Display Panel
Controller
1355
Touch Panel
1140
Speaker
1360
Money Handler
1361
Communication Device
1359
Storage Device
1365

FIG. 22

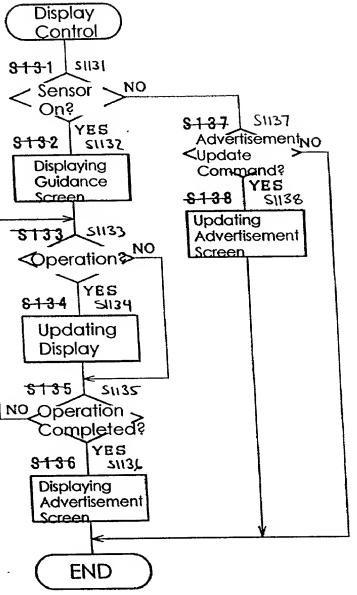

Display Control
S131
S131
Sensor On?
NO
YES
S132
S132
Displaying Guidance Screen
S133
S133
Operation?
NO
YES
S134
S134
Updating Display
S135
S135
NO Operation Completed?
YES
S136
S136
Displaying Advertisement Screen
S137
S137
Advertisement Update Command?
NO
YES
S138
S138
Updating Advertisement Screen
END

FIG. 23

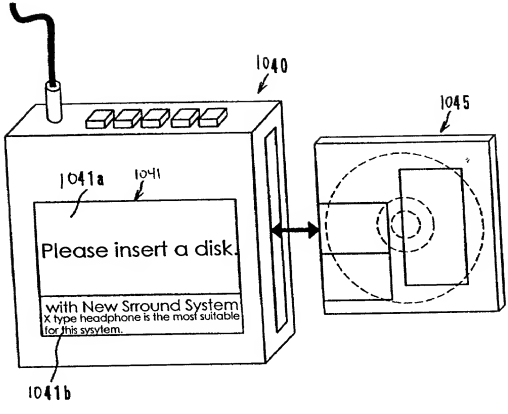

1040
1045
1041a
1041
Please insert a disk.
with New Srround System
X type headphone is the most suitable for this sysytem.
1041b

FIG. 24

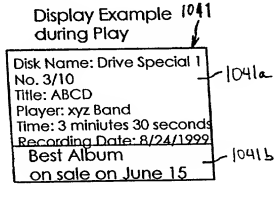

Display Example during Play
1041
Disk Name: Drive Special 1
No. 3/10
Title: ABCD
Player: xyz Band
Time: 3 miniutes 30 seconds
Recording Date: 8/24/1999
1041a
Best Album
on sale on June 15
1041b

FIG. 25

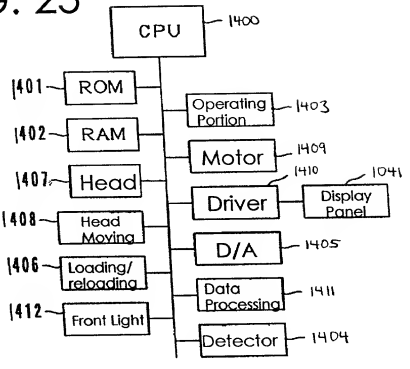

CPU
1400
1401
ROM
1402
RAM
1407
Head
1408
Head Moving
1406
Loading/ reloading
1412
Front Light
Operating Portion
1403
Motor
1409
1410
Driver
1041
Display Panel
D/A
1405
Data Processing
1411
Detector
1404

FIG. 26

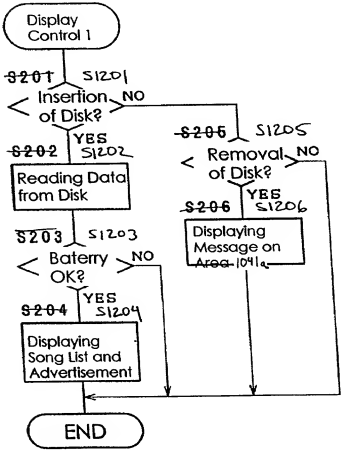
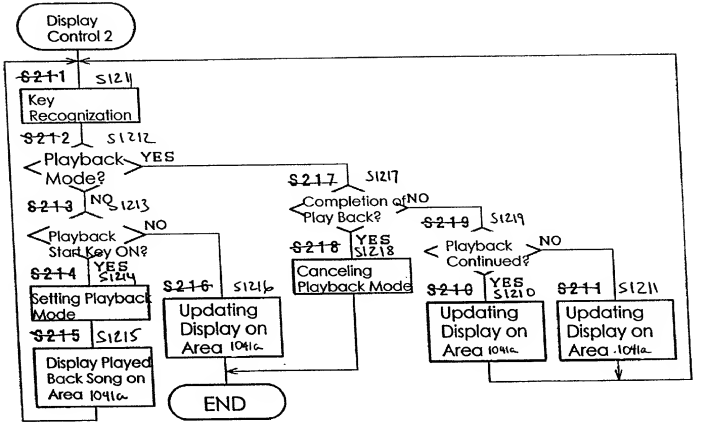
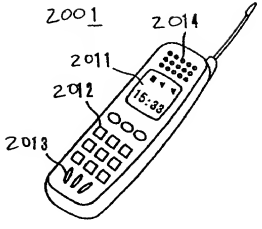

Display Control 1
S201
S1201
Insertion of Disk?
NO
YES
S202
S1202
Reading Data from Disk
S203
S1203
Batterry OK?
NO
YES
S204
S1204
Displaying Song List and Advertisement
S205
S1205
Removal of Disk?
NO
YES
S206
S1206
Displaying Message on Area 1041a
END

FIG. 27


Display Control 2
S211
S1211
Key Recognization
S212
S1212
Playback Mode?
YES
NO
S213
S1213
Playback Start Key ON?
NO
YES
S214
S1214
Setting Playback Mode
S215
S1215
Display Played Back Song on Area 1041a
S216
S1216
Updating Display on Area 1041a
S217
S1217
Completion of Play Back?
NO
S218
S1218
YES
Canceling Playback Mode
S219
S1219
Playback Continued?
NO
YES
S210
S1210
Updating Display on Area 1041a
S211
S1211
Updating Display on Area 1041a
END

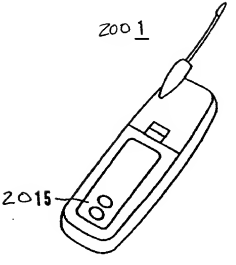
28(A)

FIG. ~~1(A)~~



28(B)

FIG. ~~1(B)~~



29

FIG. ~~2~~

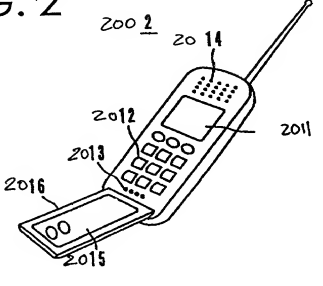


FIG. 3 30

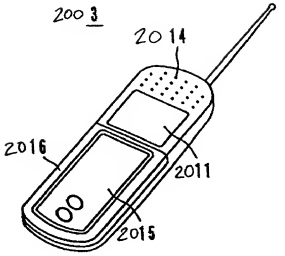


FIG. 4 31

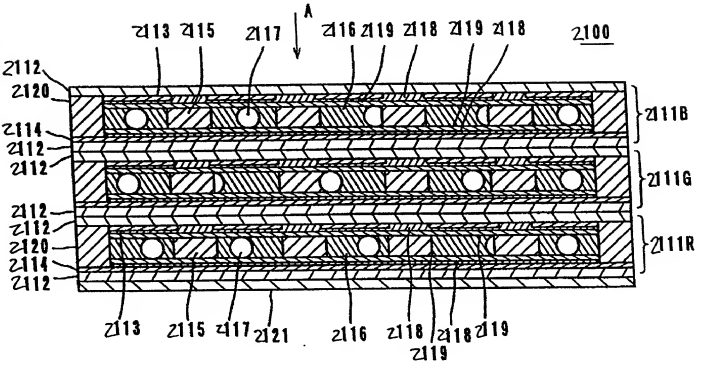
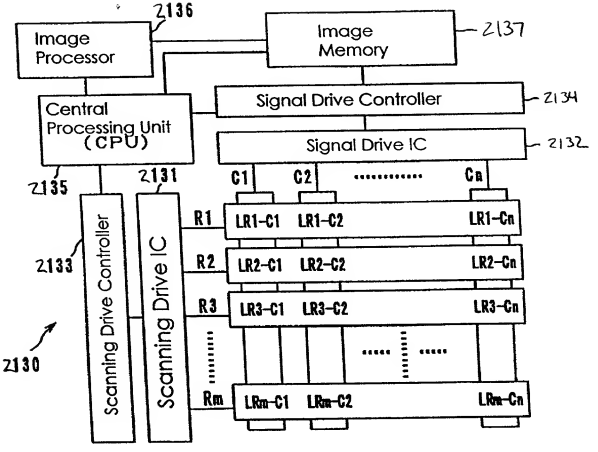


FIG. 5 32


2136
Image Processor
Image Memory
2137
Central Processing Unit (CPU)
Signal Drive Controller
2134
Signal Drive IC
2132
2135
2131
C1
C2
Cn
R1
LR1-C1
LR1-C2
LR1-Cn
2133
R2
LR2-C1
LR2-C2
LR2-Cn
R3
LR3-C1
LR3-C2
LR3-Cn
2130
Scanning Drive Controller
Scanning Drive IC
Rm
LRm-C1
LRm-C2
LRm-Cn

F10460/SY 2000-91609 (P23157)

FIG. 6

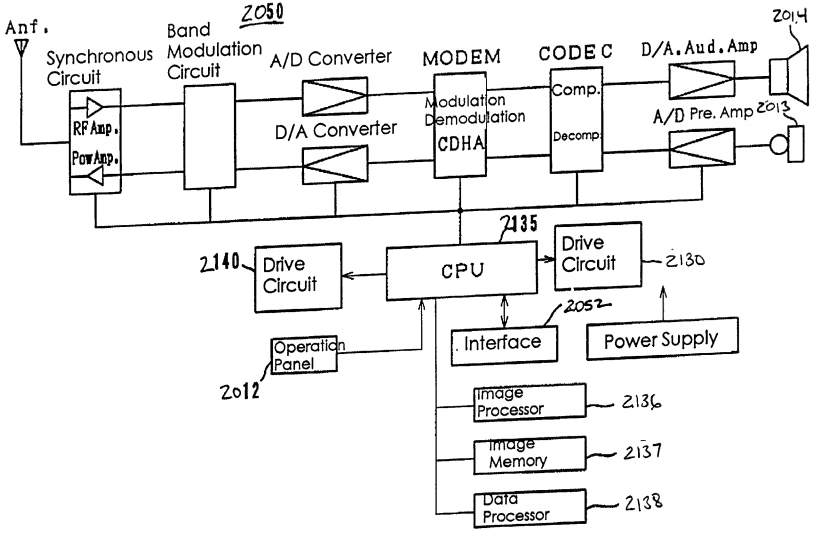


FIG. 7(A) 34A

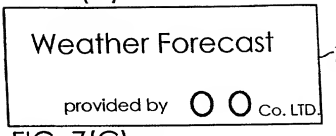


FIG. 7(B) 34B

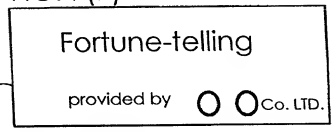


FIG. 7(C) 34C

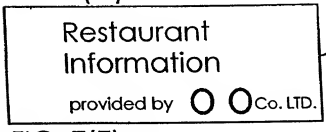


FIG. 7(D) 34D

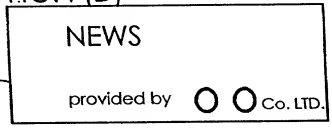


FIG. 7(E) 34E

FIG. 8 35

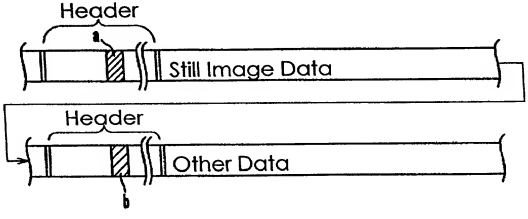


FIG. 9 36

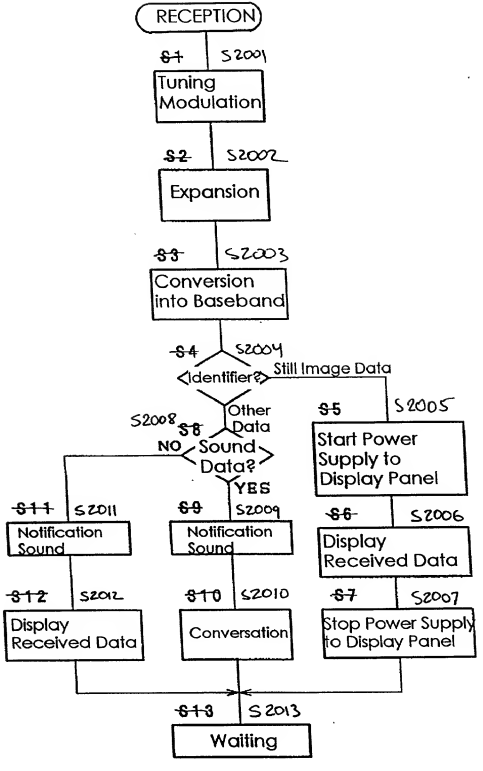

RECEPTION
S1
S2001
Tuning Modulation
S2
S2002
Expansion
S3
S2003
Conversion into Baseband
S4
S2004
Identifier?
Still Image Data
Other Data
Sound Data?
NO
YES
S2008
S8
S5
S2005
Start Power Supply to Display Panel
S11
S2011
Notification Sound
S9
S2009
Notification Sound
S6
S2006
Display Received Data
S12
S2012
Display Received Data
S10
S2010
Conversation
S7
S2007
Stop Power Supply to Display Panel
S13
S2013
Waiting

FIG. ~~10~~ 37

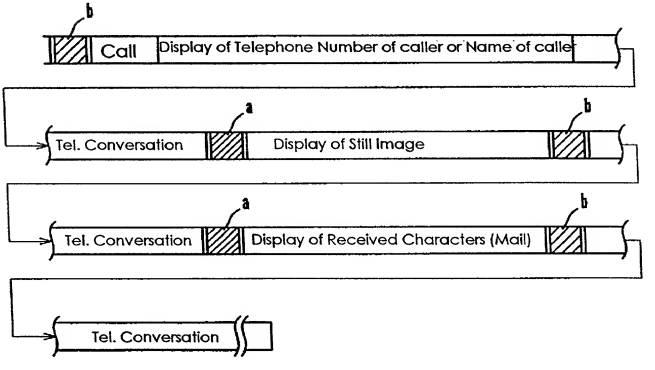

b
Call
Display of Telephone Number of caller or Name of caller
a
b
Tel. Conversation
Display of Still Image
a
b
Tel. Conversation
Display of Received Characters (Mail)
Tel. Conversation

FIG. 11

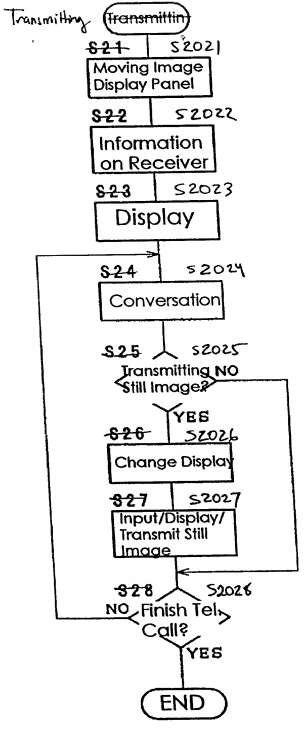

Transmitting
Transmitting
S21
S2021
Moving Image Display Panel
S22
S2022
Information on Receiver
S23
S2023
Display
S24
S2024
Conversation
S25
S2025
Transmitting NO Still Image?
YES
S26
S2026
Change Display
S27
S2027
Input/Display/ Transmit Still Image
S28
S2028
NO
Finish Tel. Call?
YES
END

FIG. ~~12~~ 39

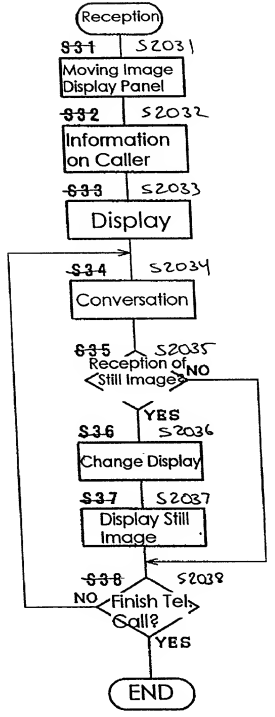

Reception
~~S31~~ S2031
Moving Image Display Panel
~~S32~~ S2032
Information on Caller
~~S33~~ S2033
Display
~~S34~~ S2034
Conversation
~~S35~~ S2035
Reception of Still Image?
NO
YES
~~S36~~ S2036
Change Display
~~S37~~ S2037
Display Still Image
~~S38~~ S2038
NO
Finish Tel Call?
YES
END

FIG. 13-40

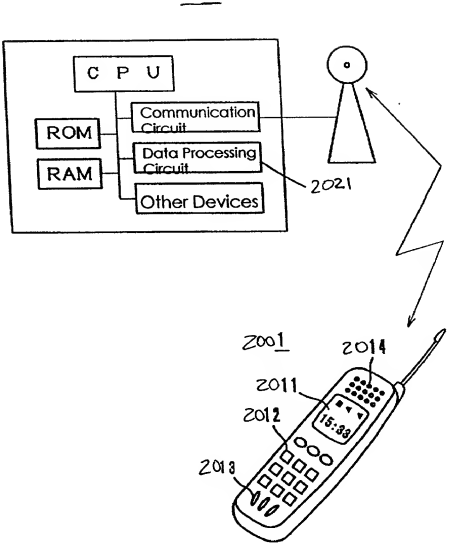

2020
C P U
ROM
RAM
Communication Circuit
Data Processing Circuit
Other Devices
2021
2001
2014
2011
2012
2013
15:88

FIG. ~~14~~ 41

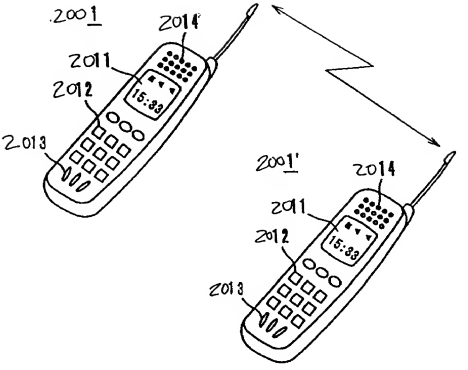


FIG. 1

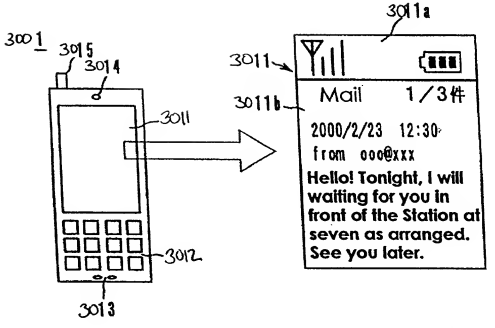

3001
3015
3014
3011
3012
3013
3011a
3011b
Mail 1/3件
2000/2/23 12:30
from ooo@xxx
Hello! Tonight, I will waiting for you in front of the Station at seven as arranged. See you later.

FIG. 2

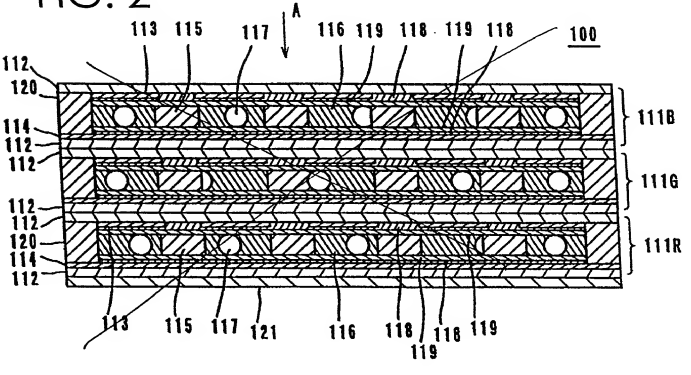

A
100
111B
111G
111R
112
113
114
115
116
117
118
119
120
121

FIG. 4

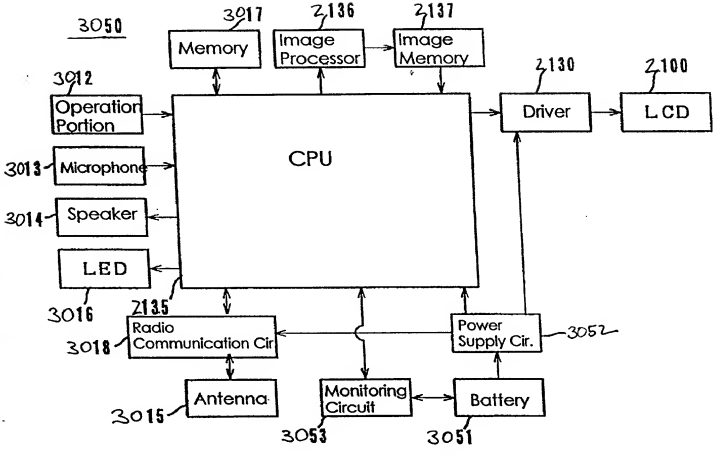

3050
3017
Memory
2136
Image Processor
2137
Image Memory
2130
Driver
2100
LCD
3012
Operation Portion
CPU
3013
Microphone
3014
Speaker
LED
3016
2135
3018
Radio Communication Cir
Power Supply Cir.
3052
3015
Antenna
Monitoring Circuit
Battery
3053
3051

FIG. 5

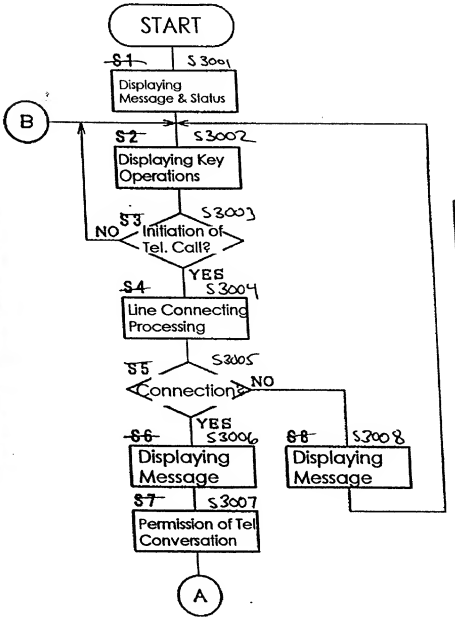

START
S1
S3001
Displaying Message & Status
B
S2
S3002
Displaying Key Operations
S3
S3003
NO
Initiation of Tel. Call?
YES
S4
S3004
Line Connecting Processing
S5
S3005
Connection?
NO
YES
S6
S3006
Displaying Message
S7
S3007
Permission of Tel Conversation
A
S8
S3008
Displaying Message

FIG. 6

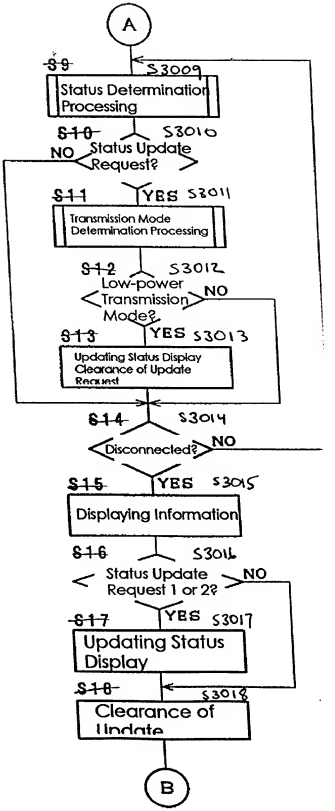

A
S9
S3009
Status Determination Processing
S10
S3010
NO
Status Update Request?
S11
YES
S3011
Transmission Mode Determination Processing
S12
S3012
Low-power Transmission Mode?
NO
S13
YES
S3013
Updating Status Display Clearance of Update Required
S14
S3014
Disconnected?
NO
S15
YES
S3015
Displaying Information
S16
S3016
Status Update Request 1 or 2?
NO
S17
YES
S3017
Updating Status Display
S18
S3018
Clearance of Update
B

FIG. 7

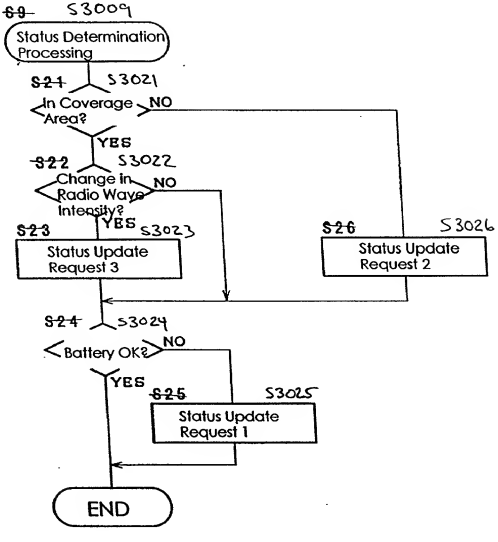

~~S9~~ S3009
Status Determination Processing
~~S21~~ S3021
In Coverage Area?
NO
YES
~~S22~~ S3022
Change in Radio Wave Intensity?
NO
YES S3023
~~S23~~
Status Update Request 3
~~S26~~ S3026
Status Update Request 2
~~S24~~ S3024
Battery OK?
NO
YES
~~S25~~ S3025
Status Update Request 1
END

FIG. 8/47

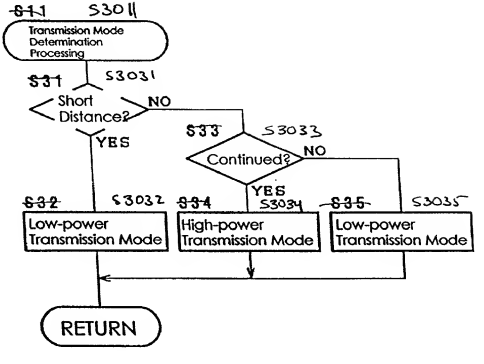

~~311~~ S3011
Transmission Mode Determination Processing
~~331~~ S3031
Short Distance?
NO
YES
~~333~~ S3033
Continued?
NO
YES
~~332~~ S3032
Low-power Transmission Mode
~~334~~ S3034
High-power Transmission Mode
~~335~~ S3035
Low-power Transmission Mode
RETURN

FIG. 9(A) 48A

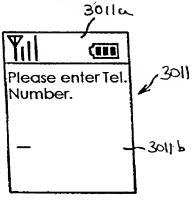


FIG. 9(B) 48B

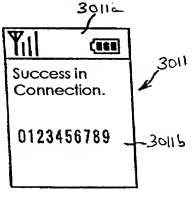


FIG. 9(C) 48C

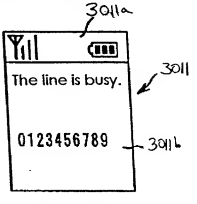


FIG. 9(D1) 48D FIG. 9(D2) 48E FIG. 9(D3) 48F

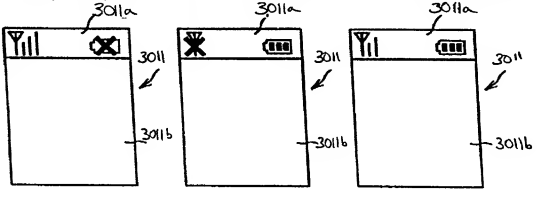


FIG. 10(A) 49A

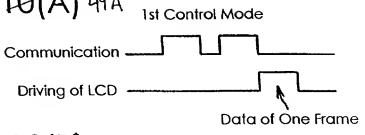


FIG. 10(B) 49B

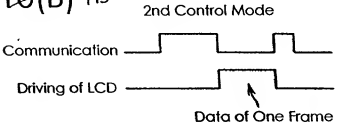


FIG. 10(C) 49C

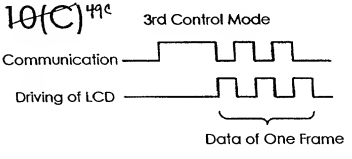


FIG. 11 SD

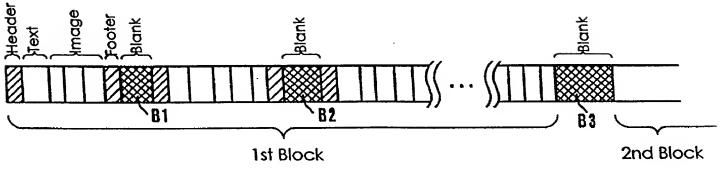


FIG. ~~12~~ 51

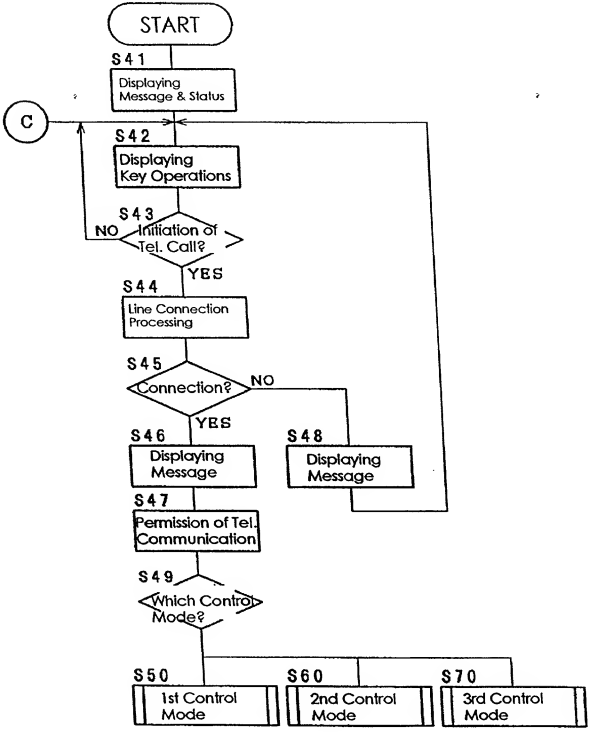

START
S41
Displaying Message & Status
C
S42
Displaying Key Operations
S43
Initiation of Tel. Call?
NO
YES
S44
Line Connection Processing
S45
Connection?
NO
YES
S46
Displaying Message
S48
Displaying Message
S47
Permission of Tel. Communication
S49
Which Control Mode?
S50
1st Control Mode
S60
2nd Control Mode
S70
3rd Control Mode

FIG. ~~13~~ 52

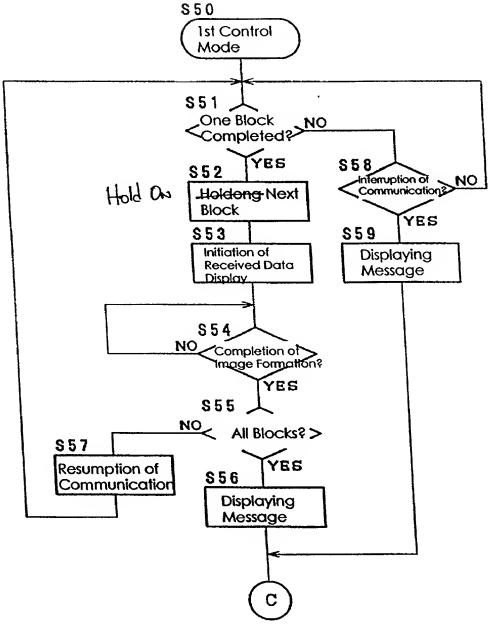

S50
1st Control Mode
S51
One Block Completed?
NO
YES
S52
Holding Next Block
Hold On
S53
Initiation of Received Data Display
S54
NO
Completion of Image Formation?
YES
S55
NO
All Blocks?
YES
S56
Displaying Message
S57
Resumption of Communication
S58
Interruption of Communication?
NO
YES
S59
Displaying Message
C

FIG. ~~14~~ 53

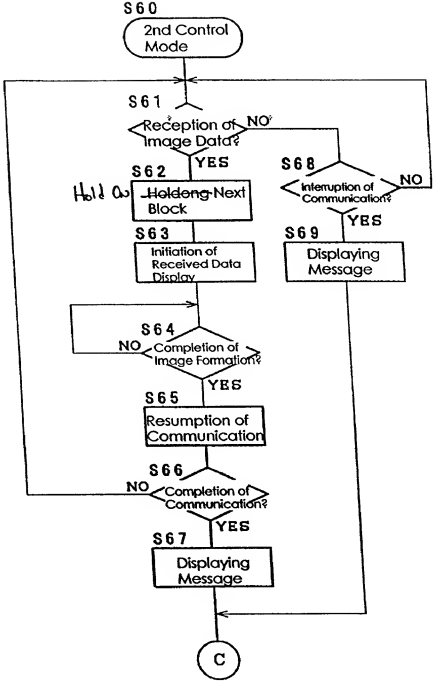
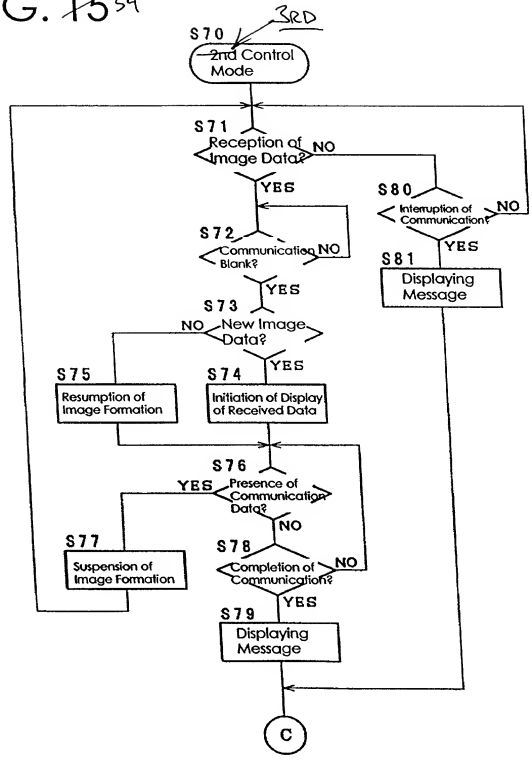

S60
2nd Control Mode
S61
Reception of Image Data?
NO
YES
S62
Holding Next Block
S63
Initiation of Received Data Display
S64
Completion of Image Formation?
NO
YES
S65
Resumption of Communication
S66
Completion of Communication?
NO
YES
S67
Displaying Message
S68
Interruption of Communication?
NO
YES
S69
Displaying Message
C

FIG. 15


S70
3RD
2nd Control Mode
S71
Reception of Image Data?
NO
YES
S80
Interruption of Communication?
NO
YES
S72
Communication Blank?
NO
YES
S81
Displaying Message
S73
NO
New Image Data?
YES
S75
Resumption of Image Formation
S74
Initiation of Display of Received Data
S76
YES
Presence of Communication Data?
NO
S77
Suspension of Image Formation
S78
Completion of Communication?
NO
YES
S79
Displaying Message
C